

Title: Removal of the pre-movement testing exemption for movements to and from common land IA No: Defra 1526 Lead department or agency: Defra Other departments or agencies:	Impact Assessment (IA)		
	Date: February 2014		
	Stage: Validation		
	Source of intervention: Domestic		
	Type of measure: Secondary legislation		
Contact for enquiries: TB Programme. Email: comms.tb@DEFRA.GSI.GOV.UK			
Summary: Intervention and Options			RPC Opinion: Awaiting

Cost of Preferred (or more likely) Option			
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANCB on 2009 prices)	In scope of One-In, Two-Out? Measure qualifies as
£2.20m	£0.51m	-£0.05m	Yes Zero net cost

What is the problem under consideration? Why is government intervention necessary?

Under Defra's TB pre-movement testing policy cattle moved from higher TB risk herds must be tested disease free before being moved. There are a small number of exempted movements one of which – movements to and from common land - represents a disease risk as potentially infected animals mix with non-infected ones. The spread of disease between farms is an externality where the actions of a farmer with disease can lead to negative spillovers and costs to other farmers and Government.

What are the policy objectives and the intended effects?

Defra has committed to introduce measures - including pre-movement testing - to tackle TB in cattle. This includes removing pre-movement exemptions for cattle movements to and from common land which on the basis of veterinary advice increase disease risks.

Intended effects are: (i) reduce the risk of bovine TB spreading among cattle from higher TB risk herds (i.e. under annual routine testing) grazing on common land; ii) reduce the economic impact of bTB on the cattle farming industry; and, (iii) reduce the overall costs of controlling bTB to the cattle industry and taxpayer.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Option 0 – Do not remove current pre-movement testing (PrMT) exemptions on common land for herds under annual TB testing. This is our business as usual (BAU) scenario.

Option 1 – Remove pre-movement exemption for movements of cattle, subject to annual TB testing, to common land. Movements from common land to be licensed without pre-movement test at the discretion of AHVLA.

Previous experience with a non-mandatory approach to pre-movement testing suggests that farmers are unlikely to do so voluntarily. Before 2006 owners of cattle herds in the high TB risks were urged to pre-movement test their stock – but farmers very rarely did so.

Will the policy be reviewed? It will not be reviewed. **If applicable, set review date:** 2016

Does implementation go beyond minimum EU requirements?			No		
Are any of these organisations in scope? If Micros not exempted set out reason in Evidence Base.	Micro Yes	< 20 Yes	Small Yes	Medium Yes	Large Yes
What is the CO ₂ equivalent change in greenhouse gas emissions? (Million tonnes CO ₂ equivalent)			Traded: N/A		Non-traded: N/A

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible SELECT SIGNATORY: George Eustice Date: 18th March 2014

Summary: Analysis & Evidence

Policy Option 1

Description: Remove pre-movement testing exemption for movements to common land.

FULL ECONOMIC ASSESSMENT

Price Base Year 2013	PV Base Year 2013	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: £0.67m	High: £3.84m	Best Estimate: £2.2m

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0.0	0.0	0.0
High	0.2	0.0	0.3
Best Estimate	0.0	0.0	0.1

Description and scale of key monetised costs by 'main affected groups'

Cattle keepers using common land: In year 1, costs of PrMTs (vet fee, testing costs) and costs of administrative changes **£39k**, ongoing costs of **£6k** p.a. in years 2-10.

Government: payment for tuberculin and cost of administrative changes **£13k** in year 1, and **£0.3k** p.a. in years 2-10.

Other key non-monetised costs by 'main affected groups'

Government: potential small costs of supporting common land groups in developing TB control plans

Common land groups: small cost of developing TB control plans

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0	0.1	0.9
High	0	0.5	3.9
Best Estimate	0	0.3	2.3

Description and scale of key monetised benefits by 'main affected groups'

Cattle owners using common land: avoided costs - economic losses of infected animals, testing, isolation and movement restrictions costs **£53k** in year 1, **£70k** p.a. in years 2-10.

Government: avoided costs - compensation payments, testing, slaughter, disposal and tracing costs **£153k** in year 1, **£205k** p.a. in years 2-10

Other key non-monetised benefits by 'main affected groups'

Cattle owners: reducing the level of disease in cattle has the potential to reduce spill-over into neighbouring farms and wildlife. Reduced health risks to cattle owners as bovine TB is a zoonotic disease. Increased information about disease status of animals on common land. Reduced stress to farmers, families and local communities as a result of fewer bTB breakdowns.

Key assumptions/sensitivities/risks

Discount rate (%) 3.5%

25% of cattle keepers would not be able to substitute their PrMT for their annual routine test in year 1, paying for additional testing / From year 2 onward all farmers would be able to substitute their routine test for the PrMT, incurring no additional costs / Each animal moves on and off common land once a year / 5% of herds would require PrMT when returning from common land

Sensitivities: **see section 9. Risks and assumptions**

BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			In scope of OITO?	Measure qualifies as
Costs: £0.004m	Benefits: £0.053m	Net: £0.048m	Yes	Zero Net Cost

Evidence Base (for summary sheets)

1. Introduction

Bovine TB (bTB) is a serious infectious and zoonotic disease of cattle. bTB related controls cost government in the region of £100 million a year and are increasing. bTB costs to farmers in England are estimated to be in the region of £75 million a year. In 2012 almost 5.9 million cattle were tested resulting in 3,900 new herd bTB incidents, 6,950 herds under restriction and the slaughter of 28,000 animals.

Under Defra's pre-movement testing (PrMT) policy cattle moved from higher bTB risk herds (i.e. farmers within the annual testing counties of Berkshire, Buckinghamshire, Cheshire, Cornwall, Derbyshire, Devon, Dorset, Gloucestershire, Hampshire, Herefordshire, Worcestershire, Leicestershire, Northamptonshire, Oxfordshire, Avon, Shropshire, Somerset, Staffordshire, East Sussex, Warwickshire, Wiltshire and the West Midlands) must have had a clear bTB test within the 60 days preceding the movement. There are a small number of instances where high risk herds (e.g. due to risky trading patterns) in the low risk areas are placed on annual testing and will also be subject to PrMT. Certain cattle movements are exempted from this rule in the Tuberculosis (England) Order 2007

Veterinary advice is that one particular exemption – movements to/from common land – is unsafe, as it increases the risk of bTB spread i.e. untested cattle within the annual testing area move to summer grazing on common land and potentially mix with other higher risk cattle before being moved back to the farm. The European Commission – who co-finance our TB eradication plan – have also expressed concerns about the 'common land exemption'.

2. Rationale for Government intervention

The spread of disease between herds and into wildlife is an externality where the actions of one farmer with disease can lead to negative spillovers and costs to other farmers as well as to the taxpayer. Requiring cattle keepers to test their animals prior to moves, and preventing those moves where disease is found, reduces this externality.

Under Defra's bTB pre-movement testing (PrMT) policy cattle moved from higher bTB risk herds (i.e. those under annual routine testing) in England must be tested disease free before being moved. There are a small number of exempted movements one of which – movements to and from common land - represents a disease risk as potentially infected animals mix with non-infected ones from other herds grazed on the same common land.

Previous experience with non-mandatory approach to pre-movement testing suggests that farmers are unlikely to do so voluntarily. Before 2006 owners of cattle herds in the high TB risks were urged to pre-movement test their stock – but farmers very rarely did so.

Additionally, alongside maintaining vigilance over risks to public health, the rationale for Government intervention is to mitigate the economic impact of the disease on the cattle farming industry, given the damage that can be done to farm businesses and farmers' livelihoods by bTB breakdowns in their herds.

3. Policy objective and intended effect

Intended effects are: (i) reduce the risk of bTB spreading within and between higher bTB risk cattle herds grazing on common land; (ii) reduce the economic impact of bTB on the cattle farming industry; and, (iii) reduce the overall costs of controlling bTB to the cattle industry and taxpayer.

Overall, the use of PrMT should reduce the size and frequency (and so cost) of bTB breakdowns amongst herds within the high-risk area of England that use common land for grazing.

4. Application and scope

The proposed changes will apply to owners of cattle herds subject to annual surveillance testing that graze animals on common land in England only.

5. Considered options

Option 0: Retain current pre-movement testing (PrMT) exemptions on common land in annually tested areas. This is the business as usual (BAU) scenario.

Option 1: Remove pre-movement testing exemption for movements to common land. This option will require cattle owners with annually tested herds to test their animals before any move to common land. Movements from common land will be licensed without a pre-movement test at the discretion of AHVLA, which is expected to happen in the vast majority of cases. This is the preferred option.

Updates to analysis following consultation

Defra consulted on changes to the TB Order, including removal of the common land exemption, late 2013/early 2014. This has allowed us to update our evidence base through responses received from stakeholders and update the analysis accordingly. This includes:

- Updated estimate of the average herd size for cattle grazing common land
- Updated estimate of the number of cattle using common land
- Updated option to include the potential for PrMT when moving cattle from common land to the home farm

6. Costs

The main impact of Option 1 on cattle keepers is that, as long as their herd is subject to annual bTB surveillance testing and they use common land, they would have to arrange for PrMT. Where this would lead to additional testing, this would be funded by farmers.

Table 1: Summary of costs for option 1

Best	Year 1		Years 2-10	PV
	Transitional	Total	Total (annual)	
Business	£33,000	£39,000	£5,700	£83,000
Government	£13,000	£13,000	£300	£15,000
Total	£46,000	£52,000	£6,000	£98,000

Option 1 would remove the current exemption for cattle within the annually tested areas of England to carry out PrMT when moving to and from common land. As such AHVLA will require farmers to test their animals when moving to common land and when returning to their home farm. However, AHVLA will license moves back to home farms without PrMT at their discretion. It is expected that the vast majority of moves back to home farms will be subject to an exemption provided they meet AHVLA's criteria such as developing a common land TB control plan.

Under existing arrangements the majority of the costs of PrMT are paid for by farmers. Our 'best' estimates show that cattle owners would pay around £4 per animal for vet fees¹ along with costs of gathering, handling and any reduction in output of around £2.39 per animal². Government will pay

¹ Bovine TB - A Review of the Pre-Movement Testing Policy in England and Wales: April 2006-March 2009. Phase 1 Report. Defra, September 2010. <http://archive.defra.gov.uk/foodfarm/farmanimal/diseases/atoz/tb/documents/pre-movement-testing-review.pdf>

² Bennett, Richard; *Assessment of the economic impacts of TB and alternative control policies* (Defra Project SE3112, Reading University 2004) - www2.defra.gov.uk/research/Project_Data/More.asp?I=SE3112&M=KWS&V=se3112&SUBMIT1=Search&SCOPE=0

roughly £1 per animal for tuberculin. The high and low estimates are based on the number of cattle tested as there are economies of scale when testing greater numbers of cattle.

Table 2: Unit costs of pre-movement testing per animal

	Low estimates	Best estimates	High estimates
Business			
Vet fee	£ 3.0	£ 4.0	£ 8.0
Handling and gathering	£2.23	£2.39	£2.61
Government	£0.93	£0.93	£0.93

Using Farm Practice Survey (FPS) 2010 data, it is estimated that around 16,800 cattle from annually tested areas (i.e. higher TB risk areas) graze on common land. Based on average herd sizes for beef farmers taken from Agriculture in the UK³, the average number of cattle grazing common land in annually tested areas of England is estimated at 50⁴, which implies that around 336 agricultural holdings (businesses) would be affected. We expect these to most likely be beef farmers able to make use of summer grazing. These estimates are subject to significant uncertainty (reflected in the low and high scenarios) because cattle movements to and from common land are not currently recorded on the Cattle Tracing System.

In addition to these cattle, there are estimated to be around 3,175 cattle grazing on the New Forest (NF) common which was not part of the annually tested area when the FPS 2010 was carried out. Average herd size is estimated at 23.⁵ Industry advice is that around 60%-70% of these herds are located on farms that are contiguous to the New forest common. The practicalities of testing these animals for each move on and off the common (which could be daily in certain circumstances) means they are likely to be exempt from PrMT, subject to AHVLA discretion, and will be encouraged to have a commoners TB control plan.

The types of practices likely to be encouraged as part of TB control plans will be “best practice” and already in place on most cattle farms. As such any additional costs of these plans are expected to be negligible.

Table 3: Estimated number of cattle and businesses affected by option 1⁶

Numbers	Low estimate	Best estimate	High estimate
FPS cattle	12,200	16,800	21,400
FPS businesses	244	336	428
NF cattle	953	1,111	1,270
NF businesses (NFU)	41	48	55
Total businesses	285	384	483

It is standard practice for users of common land to send their cattle out to summer grazing in spring and for them to return to the home farm in autumn. For each herd moving once on (spring) and once off (autumn) common land Option 1 could imply that each cattle keeper would be required to pay for two additional PrMTs per year. However, farmers will be able to substitute their annual government-funded bTB surveillance test for one of these additional tests. This in practice means that there would only be one additional test per year. In the vast majority of cases it is expected that AHVLA would license moves without requiring a test when returning from common land. Only where there is a disease control priority

³ <https://www.gov.uk/government/publications/agriculture-in-the-united-kingdom-2012>

⁴ Removing the smallest of herds from the population to derive the average. NFU commented in their response to the consultation that keepers using common land would be unlikely to turn out greater than 50 animals.

⁵ Data supplied by NFU during consultation

⁶ Low and high estimates are based on the 95% confidence interval for the FPS data.

is AHVLA likely to require further pre-movement testing. This analysis includes the costs of testing 5% of cattle using common land when returning to the home farm to account for these potential costs.

Costs of testing before going to common land

To account for a transition period, the best estimate assumes that 25% of cattle keepers would not be able to substitute their annual test for a PrMT, therefore paying for an additional test in the first year of the policy.

From year two onwards the best estimate assumes that all farmers would be able to substitute their annual test as testing dates are automated by AHVLA. Therefore there will be no additional costs of PrMT onto common land in years 2-9.

Table 4: Assumed number of additional tests

Option 1	Low estimates	Best estimates	High estimates
Year 1	0	0.25	0.5
Years 2-9	0	0	0

Table 5: Estimated cost of additional tests in year 1

	Low estimate	Best estimate	High estimate
Business	£17,000	£29,000	£60,000
Government	£500	£500	£1,000
Total	£17,500	£29,500	£61,000

We expect that both farmers and AHVLA would bear costs for arranging PrMT (either re-arranging bTB surveillance tests or additional PrMT) in year 1. For illustrative purposes we estimate this would take around one hour, including contacting AHVLA and any paperwork. Multiplying industry's labour wage costs⁷ (£12.22) and AHVLA salary rates⁸ (£22.85) with the number of agricultural holdings (Table 3) we estimate costs of arranging TB surveillance tests in year 1. These costs are summarised in Table 6.

Table 6: Total cost of arranging PrMT in year 1⁹

	Low estimates	Best estimates	High estimates
Business	£3,000	£5,000	£9,000
Government	£6,000	£9,000	£13,000
Total	£9,000	£13,000	£22,000

Costs of testing when returning from common land

During the consultation Defra and AHVLA discussed the practicalities of removing pre-movement testing exemptions for common land users with the representative organisations for each of the main commons that will be affected by the policy change. It was advised that the home farms for the vast majority of cattle keepers that make use of common grazing are adjacent to the commons. So, subject to TB control plans being agreed with these groups (the groups have indicated they will work with us on those)

⁷ John Nix Farm Management Pocketbook 2013, inflated by 30% to include non-wage costs etc.

⁸ EO grade, inflated by 30% to include non-wage costs etc.

⁹ Totals in the table may not sum due to rounding

we would envisage the use of pre-movement testing when returning from common land to be very much the exception.

AHVLA will retain the right to enforce pre-movement testing for the purposes of disease control. To account for the potential use of additional testing when returning from common land, this analysis includes the additional costs of testing 5% of total cattle using common land per year.

Table 7: Estimated annual cost of PrMT for herds returning from common land

	Low estimate	Best estimate	High estimate
Business	£3,400	£5,700	£12,000
Government	£300	£300	£300
Total	£3,700	£6,000	£12,300

Option 1 may decrease the number of cattle grazing on common land due to the costs of PrMT or increase the number since those farmers not currently using their grazing rights may be encouraged by the greater disease freedom security that PrMT offers. As the effect is not known the number of cattle grazing on common land in years 1-10 is unchanged.

Tables 8-10 show the estimated overall cost of Option 1, both for businesses and government. The majority of costs are transition costs so we expect costs in years 2-10 to be lower than year 1.

Tables 8-10: Total quantified costs of Option 1

Best	Year 1		Years 2-10	PV
	Transitional	Total	Total (annual)	
Business	£33,000	£39,000	£5,700	£83,000
Government	£13,000	£13,000	£300	£15,000
Total	£46,000	£52,000	£6,000	£98,000

Low	Year 1		Years 2-10	PV
	Transitional	Total	Total (annual)	
Business	£3,000	£7,000	£3,400	£33,000
Government	£6,000	£6,000	£300	£8,000
Total	£9,000	£13,000	£3,700	£41,000

High	Year 1		Years 2-10	PV
	Transitional	Total	Total (annual)	
Business	£129,000	£141,000	£12,000	£233,000
Government	£24,000	£24,000	£300	£26,000
Total	£153,000	£165,000	£12,300	£259,000

Unquantified costs

There may be some small additional administration costs to Government as we will be supporting common land groups to develop TB control plans. Any costs to Government or industry are expected to be negligible.

7. Benefits

The benefits of removing PrMT exemptions are the savings in costs, both to Government and cattle keepers, of disease control measures through a reduction in bTB breakdowns. For Government these represent avoided compensation, testing, tracing, slaughter and haulage costs. For cattle keepers: avoided isolation and economic losses of infected animals (reactors), movement restriction and testing (labour) costs.

Table 11: Summary of quantified benefits of option 1

Best	Year 1		Years 2-10	PV
	Transitional	Total	Total (annual)	
Business	£0	£53,000	£70,000	£589,000
Government	£0	£153,000	£205,000	£1,710,000
Total	£0	£206,000	£275,000	£2,299,000

Monetised benefits of option 1

Testing animals prior to any move to common land will reduce the risk of infected animals mixing with uninfected herds and causing new bTB breakdowns.

Table 12: Description of monetised benefits

	Benefits	Business	Government
Option 1	Avoided breakdowns in herds TB free before move to common land	<u>Breakdown costs:</u> testing; isolation of infected animals; costs of restricted movements; economic loss	<u>Breakdown costs:</u> TB test costs; haulage, slaughter and disposal of infected animals, cost of tracing etc.

Avoiding new bTB breakdowns

To estimate the number of avoided breakdowns, the business as usual (BAU) scenario is compared with the case of PrMT before moving to common land.

Results of the veterinary risk assessment on PrMT is used to estimate that within c18,000 cattle grazing on common land each year there could be 24 reactors and converted inconclusive reactors (IRs) that would have been found if PrMT had been used.¹⁰ Assuming that PrMT's sensitivity is 75%¹¹ this implies that there could be roughly 31 truly infected animals going to common land under BAU.

These animals would be grazing on common land with bTB free herds and we expect that this will lead to new breakdowns as infection spreads to uninfected herds. Based on the transmission rate from the Conlan et al. SOR model¹² it is estimated that each of the 31 infected animals could pass disease to an average of 0.97 animals in a six month period, resulting in 31 newly infected animals. Assuming the number of new infections per infected animal follows a Poisson distribution and assuming that on average four herds are freely mixing on common land, these 31 newly infected animals will be distributed among roughly 20 new herds at common land. We conclude that there are 20 new breakdowns under BAU each year.

In the case of PrMT before moving animals to common land, 24 infected animals would be found but around 8 infected animals would still move onto common land. These 8 animals would spread disease as previously described, resulting in 5 new breakdowns in previously TB free herds. This means that

¹⁰ The VRA reports that between 1st September 2005 and 30th March 2011, there were 1,729,444 PrMTs in England, finding 1,781 reactors and 2,448 IRs. Further, PrMT review Phase 1 (2010, p.51) argues that 20% of IRs were slaughtered as reactors.

¹¹ Karolemeas K, de la Rua-Domenech R, Cooper R, Goodchild AV, Clifton-Hadley RS, et al. (2012) Estimation of the Relative Sensitivity of the Comparative Tuberculin Skin Test in Tuberculous Cattle Herds Subjected to Depopulation.

¹² Conlan AJK, McKinley TJ, Karolemeas K, Pollock EB, Goodchild AV, et al. (2012) Estimating the Hidden Burden of Bovine Tuberculosis in Great Britain. Our estimation assumes that cattle spend on average 6 months on common land and that 330 animals are grazing on common land.

using PrMT before moving to common land reduces disease spread on common land ,avoiding 15 (20 – 5) new breakdowns in bTB free herds.

As the standard bTB test is not perfect it is uncertain when breakdowns would be found under BAU and therefore when the benefits of avoided breakdowns would be realised. Therefore it is assumed that 75% of breakdowns are avoided in the first year and the remainder the following year. This means that benefits in years 2-10 are greater than in year 1.

Since our knowledge of other aspects influencing disease spread, such as disease status of wildlife or trade patterns, on farms is limited we follow the same approach in each of the ten years.

Uncertainty

As there is incomplete knowledge of disease spread on common land in annually tested areas the estimates provided are subject to uncertainty. For example, the probability of disease spread to new herds at common pasture is based on an assumption that four equal sized herds would mix perfectly with infected animals.

Monetised benefits are driven by the following factors: number of cattle, months spent grazing common land, sensitivity of PrMT (likelihood of recognising bTB infection), rate of disease spread between animals, likelihood of disease spread to uninfected herds on common land and average costs of a bTB breakdown. Table 13 shows the main assumptions used for estimating benefits along with sensitivity around the central figures.

Table 13: Assumptions for estimating the benefits of PrMT

Variable	'Best' value (low-high)	Source
Number of cattle grazing on common land	18,000 (13,000 – 23,000)	Farm practice survey (2010) and NFU response to consultation
Average number of months spent on common land	6 (5-7)	Expert advice
Sensitivity of PrMT	75% (60-90%)	Estimation of the Relative Sensitivity of the Comparative Tuberculin Skin Test in Tuberculosis Cattle Herds Subjected to Depopulation
Share of beef and dairy cattle	80%/20% (90%/10%-70%/30%)	Expert advice
Number of infected animals on common land by an infected animal	0.97 (0.81-1.14)	SOR model
Number of infected animals at a home farm by an infected animal	0.20 (0.24-0.17)	SOR model
Probability of disease spread to uninfected herds on common land	64.7% (38.5%-80%)	Derived using results from the SOR model.
Average number of herds mixing on common land	4 (2-10)	Assumption

Table 14 itemises the costs of a bTB breakdown, both to cattle keepers and government, used in the 'best' scenario. It shows that the average cost of a bTB breakdown is estimated at around £18,000 for cattle grazing on common land.¹³

¹³ Defra estimates that the cost of an average breakdown is £34,000 (£12,000 to farmers). The figure used here is lower due to the estimated size of herds using common land compared to the national average. Further, cattle using common land are more likely to be beef cattle which experience lower economic losses due to bTB than dairy cattle.

Table 14: Best estimate of the costs of a bTB breakdown

	Business	Government	Total
Infected animals	£3,800	£7,500	£11,300
Movement restriction	£150	N/A	£150
Isolation	£200	N/A	£200
Testing	£500 (gathering and handling)	£3,500 (TB tests) and £440 (Tuberculin tests)	£4,500
Tracing	N/A	£1,100 (tests) and £130 (animals)	£1,200
Other (haulage, slaughter, disposal, disease report form, advice guidance)	N/A	£900	£900
Total	£5,000	£13,000	£18,000

Unquantified benefits

For those herds requiring PrMT when returning from common land, testing could reduce the size of breakdowns if found earlier. This will depend on whether PrMT finds disease, and how long disease would have gone undetected and spread within the herd. Each animal that is infected is estimated to cost £450 to the farmer in economic loss (net of compensation) and an additional £900 to Government in compensation.

Reducing the level of disease in cattle has the potential to reduce spill-over into neighbouring farms and wildlife. It may also reduce health risks to cattle keepers as bovine TB is a zoonotic disease.

Option 1 could increase information about disease status of animals on common land and reduce stress to farmers, families and local communities as a result of fewer TB breakdowns.

Tables 15-17: Total quantified benefits of option 1

Best	Year 1		Years 2-10	PV
	Transitional	Total	Total (annual)	
Business	£0	£53,000	£70,000	£589,000
Government	£0	£153,000	£205,000	£1,710,000
Total	£0	£206,000	£275,000	£2,299,000

Low	Year 1		Years 2-10	PV
	Transitional	Total	Total (annual)	
Business	£0	£18,000	£29,000	£240,000
Government	£0	£50,000	£84,000	£690,000
Total	£0	£68,000	£113,000	£930,000

High	Year 1		Years 2-10	PV
	Transitional	Total	Total (annual)	
Business	£0	£104,000	£116,000	£987,000
Government	£0	£306,000	£340,000	£2,891,000
Total	£0	£410,000	£456,000	£3,878,000

8. Cost-benefit analysis

Applying the 'best' estimates of costs and benefits, Table 13 shows total net benefits (present value) over a 10-year period both to businesses and government.

Table 18: Present value benefits of option 1

	Net present benefits	Business	Government
Option 1	£2,201,000	£506,000	£1,695,000

9. One In, Two Out (OITO)

This measure to remove the pre-movement testing exemption for cattle moving to and from common land is in scope of OITO. It is a regulatory measure for which the monetised benefits to business are greater than the monetised costs and therefore takes ZERO NET COST status. We estimate that the preferred Option 1 generates an annual net benefit to business of £0.05m (in 2009 prices, discounted to 2010). See annex A for figures.

10. Risks and assumptions

Risks

A material increase in graziers' costs would risk leading to reduced numbers of cattle being moved to common land which would result in environmental damage. The grazing of cattle on the upland commons in the south west of England and the New Forest is critical to preserving that value. For that reason cattle grazing is supported under agri-environment schemes.

Assumptions

Costs: Number of animals per herd; number of additional tests for moves onto common land; number of additional tests for moves from common land; proportion of herds contiguous to common land.

For main assumptions on estimating benefits, see table 13.

11. Wider impacts

Economic impacts

Competition assessment

Although cattle owners in annually tested areas would face initial costs of PrMT in year 1 we expect that benefits of disease free common land would outweigh any potentially negative impacts on their competitiveness in following years.

Small Firms

The proposed measures do not discriminate between large and small businesses but focuses on those whose business is most affected by bovine TB issue.

Small/Micro business assessment

In 2012/13 the average number of employees across all sizes of lowland grazing livestock was 2.1, and just 4.9 for the largest farms.¹⁴ An exemption for small and micro businesses would therefore likely apply to all users of common land and completely undermine the policy.

Environmental impacts

Greenhouse gases

Negligible

Social impacts

A report by the Farm Crisis Network (2009) 'Stress and Loss: a report on the impact of bovine TB on farming families' based on a survey of 68 farms that had suffered a bTB breakdown found that bTB caused distress and anxiety, sometimes leading to physical illness, in farmers and their families following a bTB breakdown together with pressures on relationships.

12. Summary and preferred option

Allowing cattle from higher risk herds to move without a clear TB test to and from common land (where they may mix with cattle from other herds) is unhelpful from a disease control perspective. To protect the interests of all farmers that graze cattle on common land and the general taxpayer we propose removing the pre-movement testing exemption for this cattle movement. We also propose encouraging Common land management groups to develop TB control plans for their areas. The plans would provide assurance to all parties that disease risks on common land are being robustly managed, and so enable officials to consider allowing movements of cattle from common land back to the home farm (provided the farm is contiguous to the common land) without a pre-movement test.

¹⁴ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/267479/fbs-farmaccountsengland-19dec13.pdf

Annex A: Business costs and benefits contributing to EANCBC

Table A1: Detail of business costs for EANCBC calculation

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total (PV)	Equivalent Annual
Cost of additional tests when moving to common land in year 1	£28,600	0	0	0	0	0	0	0	0	0		
Cost of arranging tests when moving to common land in year 1	£4,700	0	0	0	0	0	0	0	0	0		
Cost of testing when returning from common land, years 1-10	£5,700	£5,700	£5,700	£5,700	£5,700	£5,700	£5,700	£5,700	£5,700	£5,700		
Total	£39,000	£5,700	£5,700	£5,700	£5,700	£5,700	£5,700	£5,700	£5,700	£5,700	£82,600	£7,400

Table A2: Detail of business benefits for EANCBC calculation

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Total (PV)	Equivalent Annual
Benefits to business, years 1-10	£52,800	£70,400	£70,400	£70,400	£70,400	£70,400	£70,400	£70,400	£70,400	£70,400	£588,700	£52,800